AIRPAL™

PLATFORM

Service Manual

The AirPal Platform is manufactured by:

AirPal, Inc.
1488 Limeport Pike
Coopersburg, PA 18036
USA

Contact:

Phone 1-800-633-4725
Fax 1-610-965-2460
http://www.airpal.com
info@airpal.com

Copyright:

Copyright 2009 by AirPal, Inc. All rights reserved worldwide. No part of this document may be reproduced by any means nor translated to any electronic medium without the written consent of AirPal, Inc. Specifications are subject to change without notice. Information contained in this document is believed to be accurate at time of publication, however, AirPal, Inc. assumes no responsibility for its use. “AirPal” is a registered trademark of AirPal, Inc. in the United States of America and worldwide. “RAMP” is a registered trademark of AirPal, Inc. in the United States of America and worldwide. “Best Choice for Best Practice” is a registered trademark of AirPal, Inc. in the United States of America and worldwide. “Our Mission is Patient Position” is a registered trademark of AirPal, Inc. in the United States of America and worldwide. “First Choice for Best Practice” is a registered trademark of AirPal, Inc. in the United States of America and worldwide. All other trademarks mentioned in this document are the property of their respective owners.

Linea 70 ® is a registered trademark of Herculite, Inc.
Lectrolite® is a registered trademark of Herculite, Inc.
Sure Chek Fusion III® is a registered trademark of Herculite, Inc.
Torx® is a registered trademark of Textron, Inc.
Phillips® is a registered trademark of The Phillips Screw Co.

Warranty:

The AirPal Platform is warranted solely by the Statement of Warranty contained in this Service Manual. AirPal, Inc. makes no other warranty, express or implied, and in particular, makes no warranty of merchantability or fitness for a particular purpose.

Manufacturer’s Specifications are Subject to Change Without Notice

Rev. 2009.02.28A

STATEMENT OF WARRANTY

Definitions

Each AirPal Platform, AirPal RAMP, AirPal RAMP-All-in-One and AirPal Durable Sani-Liner, is fully warranted against manufacturer's defects for five years from date of shipment. RAMP Air-Controllers are warranted against manufacturer's defects for two years from date of shipment. Each Air Supply is fully warranted against manufacturer's defects for a period of two years from date of shipment. AirPal Stands are warranted against manufacturer's defects for two years from date of shipment.

Terms

All warranties implied or otherwise, are void if the product has been damaged by accident, unreasonable use, neglect, improper service or other causes not arising out of defects in material or workmanship or if the product has not been purchased directly from AirPal, Inc. or its authorized representative. The sole obligation of AirPal, Inc. shall be to repair or replace, at its option, equipment found to be defective under its warranty. Normal "wear" is not covered by this warranty; products will show signs of use over time.

Warranty Repair and or Replacement Procedure

1. Contact AirPal, Inc. at 800-633-4725. AirPal, Inc. will provide you shipping instructions. Upon receipt, AirPal, Inc. will promptly assess and advise its obligation to repair or replace products.
2. For AirPal Platform, AirPal RAMP, AirPal RAMP-All-in-One, and AirPal Durable Sani-Liner—WARNING: Warranted service on these products is fully provided by AirPal, Inc. Any attempt to dismantle or effect repairs by anyone other than AirPal, Inc. automatically voids the five year warranty.
3. For AirPal Air Supply, AirPal RAMP Air Controller, and AirPal Stand—WARNING: Warranted service on these products is fully provided by AirPal, Inc. Any attempt to dismantle or effect repairs by anyone other than AirPal, Inc. automatically voids the two year warranty.

Out of Warranty Repair and or Replacement Procedure

1. Contact AirPal, Inc. at 800-633-4725. AirPal, Inc. will provide you shipping instructions. Upon receipt, AirPal, Inc. will promptly assess and advise recommendation of repair or replacement. If a repair is advised, AirPal, Inc. will provide a repair cost estimate.
2. AirPal, Inc. will repair damaged or worn products at a minimum of $75.00 per effected product. In the event estimated repair costs exceed 50% of current replacement cost, AirPal, Inc. has the option not to repair the effected product.

AIRPAL™ PLATFORM

Manufacturer's Specifications are Subject to Change

RAMP™ OUR MISSION IS PATIENT POSITION™

Table of Contents

1.0 Introduction
- 1.1 Typographical Key - - - - - - - - 1
- 1.2 Common Acronyms - - - - - - - - 1

2.0 Specifications
- 2.1 Electrical Specification - - - - - - - 2
- 2.2 Physical Specification - - - - - - - - 2
- 2.3 Regulatory Certification - - - - - - - 4
- 2.4 Labels and Color Coding - - - - - - - 5

3.0 Operation
- 3.1 General Description - - - - - - - - 6
- 3.2 Power Requirement - - - - - - - - 8
- 3.3 Component Connections - - - - - - - 8
- 3.4 Component Operation as a System - - - - - - 9

4.0 Troubleshooting
- 4.1 General Guidelines - - - - - - - - 10
- 4.2 Identifying Issues - - - - - - - - 10
- 4.3 Function Checks - - - - - - - - 11

5.0 Disassembly and Replacement Instructions
- 5.1 Consequence to Warranty - - - - - - - 13
- 5.2 Tools and Supplies - - - - - - - - 13
- 5.3 AirPal Air Supply - - - - - - - - 14
  - 5.3.1 Handle - - - - - - - - 14
  - 5.3.2 Power Cord Socket - - - - - - - 15
  - 5.3.3 Top Cover - - - - - - - - 16
  - 5.3.4 Fuses - - - - - - - - 17
  - 5.3.5 Air Supply Filter - - - - - - - 18
- 5.4 AirPal Stand - - - - - - - - - 19
- 5.5 AirPal Platform - - - - - - - - 19
- 5.6 AirPal Replacement Parts List - - - - - - - 19

6.0 Maintenance
- 6.1 AirPal Platform Wipe Down Disinfectant Procedure - - - - 24
  - 6.1.1 Recommended Disinfectants—"L" Series - - - - 24
  - 6.1.2 Recommended Disinfectants—"N" Series - - - - 25
  - 6.1.3 Recommended Disinfectants—"L" & "N" Series - - - 25
- 6.2 AirPal Platform Stain Removal "L" & "N" Series - - - - - 25
- 6.3 AirPal Platform Laundry Procedure "N" Series Only - - - - 26
- 6.4 Filter and Accessory Cleaning - - - - - - - 27
  - 6.4.1 Air Supply Filter - - - - - - - 27
  - 6.4.2 Air Supply Exterior Surfaces - - - - - - 28
  - 6.4.3 AirPal Stand Exterior Surfaces - - - - - 28
- 6.5 Consumables - - - - - - - - - 29
  - 6.5.1 Air Supply Filter - - - - - - - 29
  - 6.5.2 Disposable Protective Liners - - - - - - 29

1.0 Introduction

1

1.1 Typographical Key

Before you start using this Service Manual, it is important to understand the terms and typographical conventions used in the documentation. This Service Manual has been designed to enhance readability and the understanding of the content:

Use of Text

- Standard text: used throughout the Service Manual without emphasis.
- **Boldface text:** used to emphasize a word or phrase.
- NOTE BOX: used to highlight important concepts or special information.

Use of Symbols

- Warning or Caution Symbol:
- Electric Shock Hazard Warning:
- Toxic/Chemical Hazard Warning:

1.2 Use of Acronyms

- db: Decibel (a measure of loudness)
- P/N: Part Number
- VAC: Volts Alternating Current
- VDC: Volts Direct Current

2.0 Specifications

2.1 Electrical Specifications

When the AirPal Platform is used as a system (AirPal Platform + AirPal Air Supply) the following specifications apply:

Electrical Specifications*	
Power Requirement (USA)	110-120 VAC 50/60Hz 1100 Watts
Power Requirement (240V System)	220-240 VAC 50/60Hz 1200 Watts
Power Requirement (Japan)	110-120 VAC 50/60Hz 1100 Watts

2.2 Physical Specifications

AirPal Platform

Product Versions

AirPal Platform Standard (78” Length)
Available Widths: 24”, 26”, 28”, 30”, 32”, 39”
AirPal Platform Trauma
Available Widths: 28”
AirPal Platform EMS
Available Widths: 18”
AirPal Platform Magna (Bariatric)
Available Widths: 50”
AirPal Platform Half-Length (39” Length)
Available Widths: 28”, 30”, 32”, 39”

Construction

All AirPal Platforms are double stitched (14lb. Test Nylon Thread) - (No heat sealed seams or attachment points to fail)

2.0 Specifications

2.2 Physical Specifications Continued

AirPal Platform Materials

Panels-

"N" Series-	Lower Platform panels: Linea 70 Doubled layer top panel: Sure Chek Fusion III
"L" Series-	Lower Platform panels: Linea 70 Doubled layer top panel: Lectrolite
"TR" Series-	Lectrolite top, sides, portion of Bottom All other panels: Linea 70
"NSH" Series-	Linea 70
"LSH" Series-	Lower Platform Panels: Linea 70 Doubled layer top panel: Lectrolite

Extended Ergonomic Handles- Mil-Spec Tubular Nylon Reinforced Webbing (CE Certification)

Snaps- Nickel Plated Brass (Non-Ferrous)

Safety Straps- Linea 70 (Double Stitched and Reinforced); ABS Plastic Adjustable Buckles; Attached to Platform Along Bottom Periphery.

AirPal Air Supply

Noise Level- 66db measured at one meter with an ambient noise level of 35db.

Weight- 5.4Kg (12lbs)

Supply Hose- 6ft. Standard/25ft Extended Length

Electrical Plug- Three prong grounded "Hospital Grade"

Dimensions– 11" x 9" (diameter x height)

Materials- Filter housing = stainless steel; Motor enclosure = plastic

2.2 Physical Specifications Continued

Extended Length Protective Liner

Materials-

"N" Series- Sure Chek Fusion III
"L" Series- Lectrolite

Attachment- Seven non-ferrous snaps - attached through extended tabs

AirPal Stand

Materials– Stainless steel center pole/handle, non-corrosive polished cast metal base, powder coated welded steel retention rings, brackets, and cord retention hooks. I.V. type footprint with five 3" fendered casters. Removable machine washable plastic storage basket.

Accommodation- (1) AirPal Platform; (1) Sani-Liner; Up to (2) Air Supply (Second air supply can be used as a supplement to bariatric transfers, although not required)

2.3 Regulatory Certification

E1282000
UL 60601-1

Certified
Electrical Safety
LR1074
CSA 601.1-M90

The CE mark indicates that the product has met all relevant requirements set out in European Directives. This product conforms to MDD93/42/EEC for Class 1

The SGS USTC-mark was developed in the US to certify conformity of a product to the valid US standard through a third party testing and inspection. UL 60601-1 is the U.S. national standard for safety testing electrical medical devices. The SGS USTC-mark certifies AirPal-PTS, Inc. has met with testing and inspection requirements.

The PSQ-mark certifies compliance with CSA 601.1-M90 - for Medical Electric Equipment.

2.0 Specifications

2.4 Labels and Color Coding

The complete system (AirPal Platform, Airpal Air Supply, AirPal Stand, AirPal Sani-Liner) has several labels which list various types of data. AirPal employs a color coding system for easy staff identification of sizes and to match AirPal Platforms with the correct sized AirPal Sani-Liners.

AirPal Air Supply

The AirPal Air Supply is labeled on the filter housing and on top of the motor enclosure, additionally attached to the handle is a User's Guide. The label on the filter housing provides information to contact AirPal, Inc. The label located on the motor enclosure lists electrical specifications and certifications. The Users Manual is required and should never be removed from the AirPal Air Supply.

AirPal Platform

The foot end of the AirPal Platform contains an instructional label. The label is located on the top surface and part of its function is to help staff orient the AirPal Platform to the patient.

AirPal Extended Protective Liner

The AirPal Sani-Liner is used to provide protection to the AirPal Platform from fluids and/or soiling. Since it is placed over the AirPal Platform when in use, a duplicate instructional label is located at the foot end/top surface. Part of it's function is to help staff orient the AirPal Sani-Liner to the AirPal Platform.

Color Coding

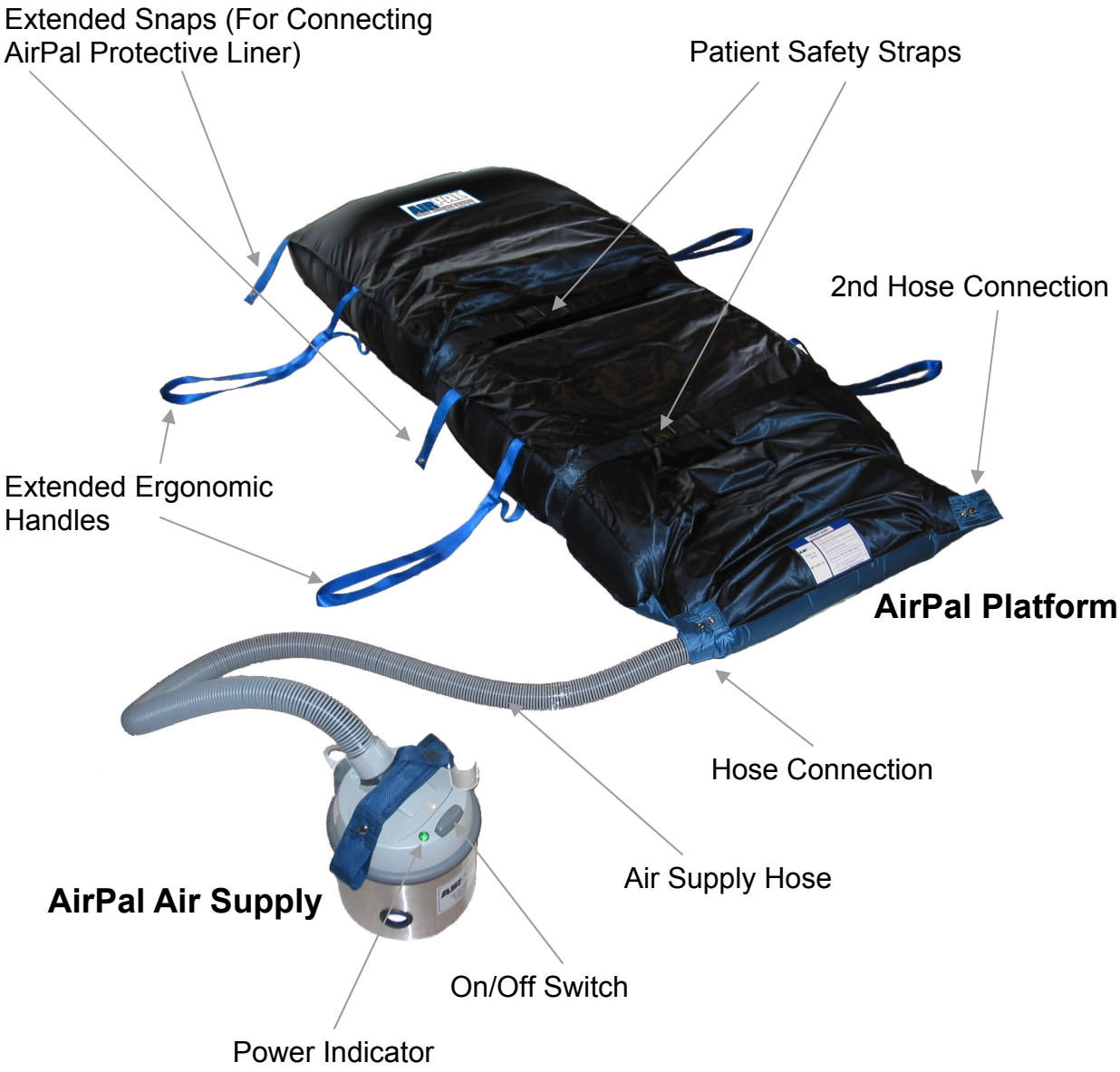
AirPal, Inc. color codes to size. The AirPal Platform handles, edge trim, and snap extensions are coded to size as well as the edge trim on a corresponding AirPal Sani-Liner. The following table can be used to identify AirPal Platforms/ AirPal Sani-Liners to the width of the AirPal Platform.

Black:	18" & 26"
Yellow:	28"
Blue:	32"
Grey:	39"
Orange:	50"

3.0 Operation

3.1 General Description

The AirPal Platform System is composed of a small number of components. The illustrations below outline the major components and their features:



3.1 General Description Continued

The illustrations below outline the AirPal Platform's component accessories:

AirPal Extended Protective Liner

Removable Machine Washable Basket
Retention Ring for AirPal Air Supply
(2nd Retention Ring is Optional)
I.V. Footprint for Stability
Three Inch Fendered Casters

AirPal Stand

3.0 Operation

3.2 Power Requirement

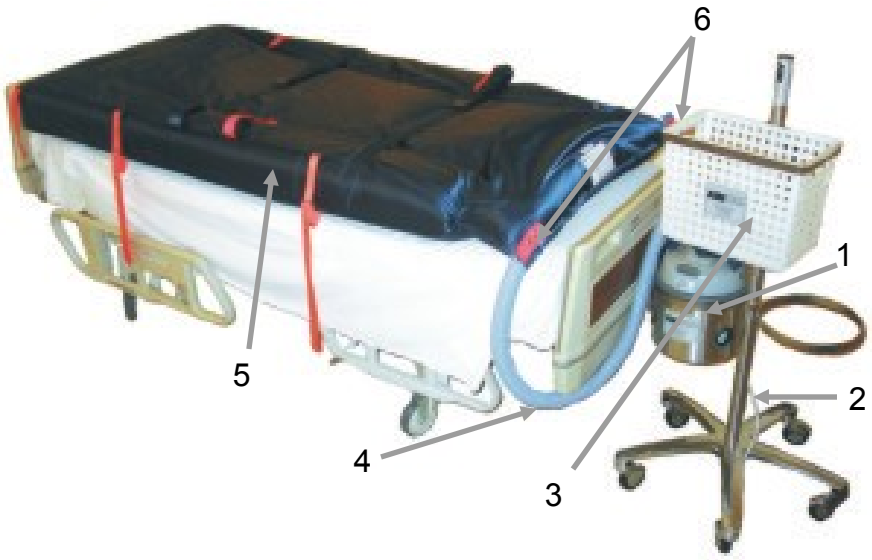
Power Requirement	
Voltage:	100-120 VAC or 110-120 VAC or 230 VAC @ 50/60Hz
Fuses Primary Internal	2 x 12A

3

3.3 Component Connections

The illustration below shows the interconnection of the system components:

1. AirPal Air Supply
2. Power Cord (230VAC or 120VAC in)
3. AirPal Stand
4. Air Supply Hose
5. AirPal Platform
6. Hose Connection



Hose Connection Detail

The hose is inserted into the sleeve located on either side of the foot-end of the AirPal Platform. Once inserted firmly in place, a system of snaps holds the hose-end securely.

3.4 Component Operation as a System

The major components that make up the "System" include the AirPal Platform, the AirPal Air Supply, and an air supply hose. Accessory components include the AirPal Sani-Liner and the AirPal Stand.

The AirPal Air Supply operates as a high volume low pressure air blower. The AirPal Air Supply operates on 120/240VAC (dependant on model). A standard "hospital grade" three prong plug is used to connect to an electrical power source. An on/off power switch is located on the top of the motor enclosure. When the switch is in the "on" position a nearby indicator will glow green indicating the AirPal Air Supply is switched on. The AirPal Air Supply is circuit protected by two 12A fuses, internal to the motor enclosure. These fuses are inline with the live and neutral circuits of the AirPal Air Supply. Ground is supplied to the AirPal Air Supply through a riveted connection at the bottom of the air filter canister.

The AirPal Air Supply employs a two micron filter to insure that the supplied air flow is "clean." The filter can be washed, sterilized, and reused.

The AirPal Air Supply operates at a constant speed. Air flow cannot be increased or decreased. In the event that additional air flow is desired (i.e., a bariatric transfer), an additional AirPal Air Supply can be accommodated.

Air flow is supplied to the AirPal Platform through the use of a flexible air supply hose. One end is connected to the AirPal Air Supply and the other end is connected to one of two hose connection points located at the foot end of the AirPal Platform. The standard supplied hose is 6 ft. long and has a diameter of 15cm. An extended 25ft. version of the air supply hose is available to accommodate transfers in an MRI environment where the metal parts of the AirPal Air Supply are not permitted.

Air flow is directed into the AirPal Platform causing it to inflate. Excess pressure is released through the bottom of the AirPal Platform through hundreds of tiny perforations; a cushion of air forms under the AirPal Platform to provide a friction reducing surface on which to transfer the patient.

NOTE: Use of an additional Airpal Air Supply is optional and not required. The use of an additional AirPal Air Supply is usually only warranted when transferring the heaviest patients and is subjective.

4.0 Troubleshooting

4.1 General Guidelines

WARNING: While troubleshooting can be helpful in isolating a problem, only AirPal, Inc. personnel or their duly authorized representatives should effect repairs. It should be further recognized that some troubleshooting steps could result in personal injury or equipment damage and could void Manufacturer's Warranty. (A copy of the AirPal, Inc. Statement of Warranty can be found on page ii of this Service Manual)

Troubleshooting steps are outlined below. Each step assumes the previous step has been completed. If troubleshooting does not isolate the problem contact AirPal, Inc. at info@airpal.com or call 1-800-633-4725.

Please retain a written record of any issues you encounter. Maintain records of issues that have been resolved as well as those that could not. Maintain the record in a secure document that can be made available to maintenance technicians, in the event later service is required.

4.2 Identifying Issues

Use the following Initial Steps to ascertain whether an issue needs further troubleshooting. Always note the symptoms and other information and maintain a written record. This information should be made available to maintenance technicians, in the event service is required. The Initial Steps may identify the probable cause, precluding Function Checks.

Initial Steps

1. Is the operator who encountered the issue available to explain?
   Yes Go to Initial Step 4 **No** Go to Function Checks (next page)

2. Can the problem be duplicated or explained?
   Yes Go to Initial Step 4 **No** Go to Function Checks (next page)

3. Is the issue related to improper operation?
   Yes Go to Initial Step 4 **No** Go to Function Checks (next page)

4. Have the operator refer to the User's Manual.

NOTE: A copy of the User's Manual is attached to the handle of the AirPal Air Supply. If after review of the User's Manual the issue is not resolved - Go to Function Checks (next page)

4.0 Troubleshooting

4.3 Function Checks

Troubleshooting the AirPal Patient Transfer System is straightforward. Most issues are either related to the electrical operation of the AirPal Air Supply or inadequate air flow (pressure). Use these simple preliminary function checks and re-check operation of the AirPal Patient Transfer System. Always note the symptoms and other information and maintain a written record. This information should be made available to maintenance technicians, in the event service is required.

Preliminary Function Checks

Electrical Operation

1. Check that the power cord is plugged into an operating electrical outlet. Verify that power is available at the outlet.
2. Inspect the power cord for damage.

Air Flow

1. Inspect the AirPal Platform for unintentional leaks. Cuts in the AirPal Platform can limit performance. AirPal Platforms that are found to be damaged should be sent back to AirPal, Inc. for assessment and/or repair.

If the preliminary function checks don't identify or isolate the issue, please use the "Troubleshooting Matrix." on the following page.

NOTE: Disassembly or attempts to make repairs may void Manufacturer's Warranty. Please consult AirPal's Statement of Warranty located on page ii of this Service Manual for more information.

4.0 Troubleshooting

4.3 Function Checks Continued

WARNING: SHOCK HAZARD - Voltage is present on exposed connections when power is on. Use caution when working on electrical devices.

Troubleshooting		
Problem	**Possible Causes**	**Remedy**
AirPal Air Supply will not turn on.	AirPal Air Supply is not receiving power	1. Check the electrical outlet for correct voltage per AirPal Air Supply specification. 2. Check electrical outlet for proper ground. 3. Check power cord plug is securely connected with all three prongs, and fits snugly into the outlet. 4. Cycle the on/off switch located on the AirPal Air Supply—the power indicator should glow green if connected to power and in the "on" position. 5. Check 12 Amp circuit fuses in motor enclosure (qty. 2) - Replace as necessary.
	Defective AirPal Air Supply	1. Replace the AirPal Air Supply
Air Flow - AirPal Platform will not inflate or does not create a proper cushion of air.	Hose not properly connected	1. Check hose connection points—Refer to User's Manual for instruction.
	Air Flow is not sufficient	1. Check hose connection points for proper attachment. 2. Check hose for tears or kinking. 3. Check stitched seams for failure. 4. Check for punctures or rips on Platform surfaces. 5. Check AirPal Air Supply filter for restrictions-clean/replace as necessary.
	Improper Surface	1. Place AirPal Transfer Bridge or AirPal Sani-Liner under the AirPal Platform.
	Worn-out AirPal Platform	1. Over time the special coatings on the interior of the AirPal Platform can become worn - The AirPal Platform will inflate but will fail to produce a sufficient cushion of air - Replace the AirPal Platform.

NOTE: Disassembly or attempts to make repairs may void Manufacturer's Warranty. Please consult AirPal's Statement of Warranty located on page ii of this Service Manual for more information.

5.0 Disassembly and Replacement Instructions

5.1 Consequence to Warranty

The AirPal Patient Transfer System is covered by a Manufacturer's Warranty for defects in workmanship or materials. The table below outlines length of coverage for the major components and component accessories.

AirPal Patient Transfer System - Length of Coverage*	
AirPal Platform	Five Years
AirPal Extended Protective Liner	Five Years
AirPal Air Supply	Two Years
AirPal Stand	Two Years

*Warranty period commences upon shipment from AirPal, Inc.

An example of a defect in materials would be a power switch that cannot turn on or off the AirPal Air Supply. An example of a defect in workmanship would be stitching that has come undone. It is important to note that **improper service** can **void** your manufacturer's warranty. If any component of your AirPal Patient Transfer System fails while under warranty coverage it is recommended that you notify AirPal, Inc. immediately without attempting repair. A copy of the AirPal, Inc. Statement of Warranty can be found on page ii of this Service Manual. All components should be cleaned and disinfected prior to return to AirPal, Inc. **Products that are returned to AirPal, Inc. for service or repair that have not been cleaned and disinfected will be immediately shipped back to their origin without repair or service.**

There are however common maintenance procedures that are considered normal and will not void your warranty. Primarily the AirPal Air Supply has a filter that should be cleaned on a regular interval. This requires some disassembly of the AirPal Air Supply but will not effect the Manufacturer's Warranty since it is considered a routine maintenance item. Additionally, the AirPal Air Supply uses two fuses to protect the AirPal Air Supply from power surges. When required, replacement of the fuses is considered a routine maintenance item and will not interfere with the Manufacturer's Warranty.

5.2 Tools and Supplies

To maintain the AirPal Patient Transfer System, please have the following tools and supplies on hand: (see following page)

5.0 Disassembly and Replacement Instructions

5.2 Tools and Supplies Continued

Tools and Supplies	
Tool/Supplies	**Use**
Large Standard (Slot Head) Screwdriver	1. AirPal Air Supply handle removal
Medium Phillips Screwdriver (9mm/5-16" Point)	1. AirPal Air Supply filter removal
Torx Driver (T20)	1. AirPal Air Supply power cord lock 2. AirPal Air Supply motor enclosure removal 3. AirPal Air Supply access to fuses (motor enclosure removal)
Disinfectant Cleaning Solution	1. Cleaning prior to disassembly or returning for service/warranty repair

WARNING: Always use protective eyewear and gloves when cleaning and disinfecting any equipment. Always clean and disinfect equipment prior to disassembly.

WARNING: Risk of electric shock. Always disconnect equipment from power sources prior to disassembly or cleaning.

5.3 AirPal Air Supply

5.3.1 - Handle and Hose Adapter (Removal)

Tools: Large Slot Head Screwdriver

1. Switch the AirPal Air Supply to the off position and remove power cord from electrical outlet and AirPal Air Supply.
2. Disconnect the two large slotted screw locks on either side of the handle base by rotating 90 degrees in either direction until slot on screw lock is vertical. (See Figure 1 - next page)
3. Ease handle off of the motor enclosure by pulling outward on the handle bases.
4. With handle removed - Lift out the hose adapter. (See Figure 2 - next page)

5.0 Disassembly and Replacement Instructions

5.3 AirPal Air Supply Continued

Figure 1

Figure 2

5.3.1 - Handle and Hose Adapter (Replacement)

Tools: Large Slot Head Screwdriver

1. Perform steps 1-4 in reverse
2. Remember to attach the AirPal User's Manual on the handle

5.3.2 - Power Cord Adapter Socket Lock (Removal)

Tools: T20 Torx® Driver

1. Remove the two Torx® screws located on the power cord adapter socket. (The power cord adapter socket is located immediately below the hose adapter location, see Figure 3 on next page)
2. With Torx® screws removed - proceed to 5.3 Top Cover (Motor Enclosure Removal)
3. With Top Cover (Motor Enclosure) removed - remove power cord adapter socket by lifting up and out. (Wire terminals on the back of the power cord adapter socket can be removed with a gentle tugging and back and forth motion. Note location and color of wiring for later replacement)

5.3 AirPal Air Supply Continued

Figure 3

NOTE: Remove the two Torx® screws. Set aside Power Cord Adapter Lock and two screws in a safe location so that they are available for reassembly.

5.3.2 - Power Cord Adapter Socket Lock (Replacement)

1. Perform steps 1-3 in reverse order.

5.3.3 - Top Cover (Motor Enclosure Removal)

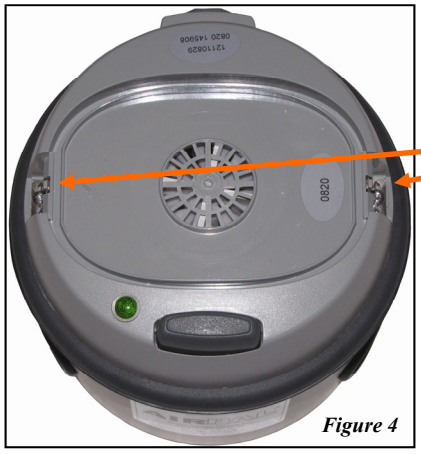


Figure 4

Torx® Screw Locations

NOTE: Remove the two Torx® screws and screw lock brackets and clips. Set aside the two screws, brackets and clips in a safe location so that they are available for reassembly.

Tools: T20 Torx® Driver

1. Remove handle and hose adapter (5.1, Figures 1 & 2 - previous page)
2. Remove the two Torx® screws located on the power cord adapter socket. (The power cord adapter socket lock is located immediately below the hose adapter location, see Figure 3 above)

5.3 AirPal Air Supply Continued

3. With handle removed - remove two Torx screws located at handle attachment points. Remove brackets and clips. (see Figure 4, previous page)
4. Remove top cover by easing it around power cord adapter socket while lifting up. Wiring to the green power LED can remain in place. Carefully rotate the top cover so that it rests on the side of the Air Supply. (See Figure 5 below)

5.3.3 Top Cover (Motor Enclosure Replacement)

1. Perform steps 1-4 in reverse order.

5.3.4 Fuse Access and Removal

1. Per 5.3, remove the top cover (motor enclosure)
2. Access the two 12 Amp fuses as necessary by opening the fuse holders. (See Figure 5 below for fuse location and identification.)

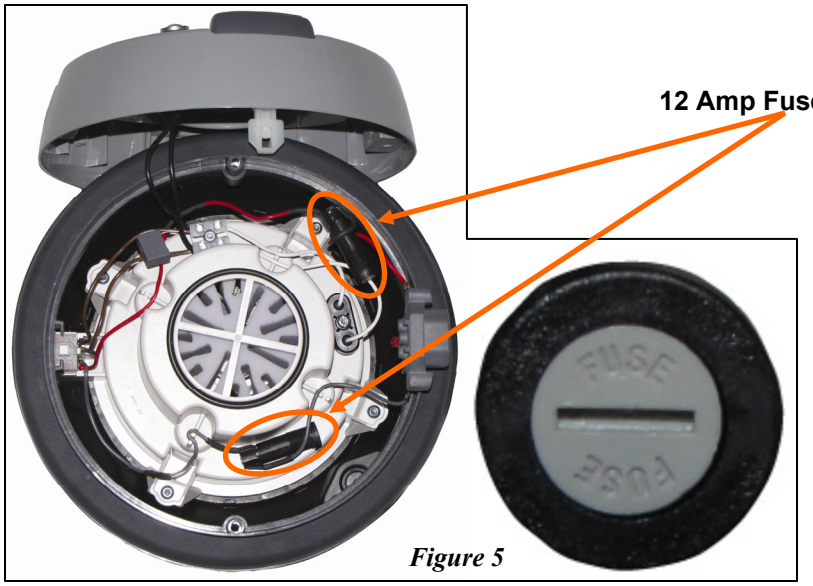


Figure 5

NOTE: To access a fuse use a small standard screwdriver to release the screw lock cap. Use a small amount of pressure against the spring tension to replace the screw lock cap.

5.3.4 Fuse Replacement

1. Replace faulty fuse as required. Check that wiring is pressed back into clips and properly routed if removed during fuse replacement.
2. Perform 5.3, steps 1-4 in reverse order.

5.3 AirPal Air Supply Continued

5.3.5 Filter Removal

Tools: Medium Phillips® Screwdriver 9mm/5-16" Point

1. Remove the three canister screws located along the top edge of the filter canister that secure it to the AirPal Air Supply motor enclosure. (Use a medium Phillips® Screwdriver, see Figure 6 below.)
2. Ease the canister away from the motor enclosure until you can see the green ground wire. Maneuver the canister with the ground wire attached and place the canister to the side of the motor enclosure. (See Figure 7 below.)
3. Optional: Remove the ground wire from the bottom of the canister by removing the nut which secures it and remove the canister completely from the motor enclosure.
4. The filter is a "sock" type element with an elastic retaining system. Stretch the elastic top of the filter element to remove it from the motor enclosure.

Figure 6

Figure 7

5.3.5 Filter Replacement

1. Replace the filter by stretching the elastic top and positioning it evenly and completely around the bottom of the motor enclosure, then push it up so it fits snugly. Perform steps 1-5 in reverse order.

NOTE: Filters can be reused after cleaning. For filter cleaning instructions and recommended schedule, please refer to the Maintenance section of this Service Manual. Replacement filters can be ordered through AirPal, Inc. at 1-800-633-4725.

5.0 Disassembly and Replacement Instructions

5.4 AirPal Stand

Storage Basket Removal/Replacement

The storage basket sits in a rectangular bracket. With all contents removed push up on the bottom of the basket then lift out. Reverse step to replace.

AirPal Air Supply Removal/Replacement

The AirPal Air Supply sits in a retention ring. To remove or replace the AirPal Air Supply requires removal of the air inlet grommets on the Air Supply canister **(USE CAUTION—metal edges can be sharp)**. The grommets "lock" the Air Supply into the AirPal Stand so that the Air Supply is not inadvertently pulled out and damaged by a fall. With the grommets removed, use the AirPal Air Supply handle to lift up and remove the AirPal Air Supply. Reverse step to replace.

Retention Ring, Bracket, and Cord Hooks Removal/Replacement

The retention ring(s), bracket, and cord hooks are mounted to the AirPal Stand along the center pole. The ring(s), bracket, and hooks are adjustable along the length of the pole and are held in place with a set screw. To remove, loosen the set screw and slide ring(s), bracket, or hook up the center pole until it is free. To replace, reverse order and be sure to note placement for final adjustment.

5.5 AirPal Platform

Inspection

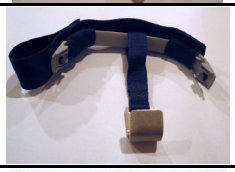
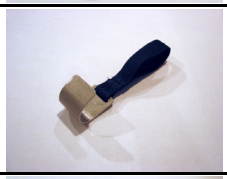
The AirPal Platform (inflatable transfer device) has no replaceable parts. If defects or damage is revealed under inspection contact AirPal, Inc. for repair or replacement.

5.6 Replacement Parts List

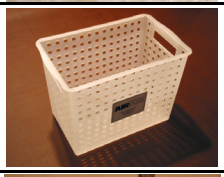
The replacement parts list on the following pages identifies replaceable parts available from AirPal, Inc. To acquire a replacement part please directly contact AirPal, Inc. This is not an all-inclusive list. Individual fasteners or parts not identified on the replacement parts list, can be obtained by contacting AirPal, Inc.

5.0 Disassembly and Replacement Instructions

5.6 Replacement Parts List

AirPal Patient Transfer System - Parts List		
Part Number	**Illustration**	**Part Description**
APLUM		AirPal User's Manual. Required to be attached to AirPal Air Supply Handle.
AH72		Air Hose Assembly Standard Length 6'. Hose is reinforced with metal wire. Complete with couplers.
CHA002		AirPal Air Supply Complete Handle Assembly.
GR02		AirPal Air Supply Air Inlet Grommet for Canister.
H007		AirPal Air Supply Hanging Hook.
PC112		AirPal Air Supply Power Cord.
SSMC012		AirPal Air Supply Filter Canister.

5.6 Replacement Parts List Continued

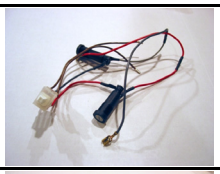
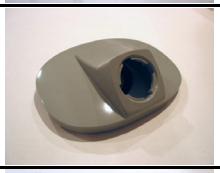
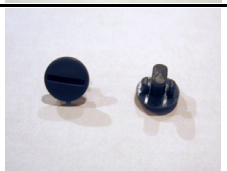
AirPal Patient Transfer System - Parts List		
Part Number	**Illustration**	**Part Description**
25AHNM		Air Hose Assembly Extended Length 25'. Hose is reinforced with metal wire. Complete with couplers.
805		AirPal Stand 5-Legged Base.
810		Fendered Caster for AirPal Stand.
890		Equipment Basket for AirPal Stand.
890-2		Retention Bracket for Equipment Basket—AirPal Stand.
891		Retention Bracket for Single AirPal Air Supply—AirPal Stand.
892		Retention Bracket for Dual AirPal Air Supplies—AirPal Stand.

5.6 Replacement Parts List Continued

AirPal Patient Transfer System - Parts List		
Part Number	**Illustration**	**Part Description**
894		Cord Hooks for AirPal Stand.
895		Handle Plug.
1032D5		Green LED Power Indicator.
815279		AirPal Air Supply Handle.
11730410		Filter for AirPal Air Supply.
20705500		AirPal Air Supply Plug Receptacle.
22091000		AirPal Air Supply Ground Kit.

5.0 Disassembly and Replacement Instructions

5.6 Replacement Parts List Continued

AirPal Patient Transfer System - Parts List		
Part Number	**Illustration**	**Part Description**
22131200		AirPal Air Supply Fuse Wire Harness.
22232300		AirPal Air Supply Motor Enclosure Top Cover.
22232500		AirPal Air Supply Motor Enclosure Support Ring.
22410400		AirPal Air Supply Clip and Bracket for Handle to Motor.
22410500		AirPal Air Supply On/Off Power Switch.
81527801		AirPal Air Supply Handle Screw Locks.

6.0 Maintenance

WARNING: In general, disinfectants, chlorine bleach, and detergents called for in this section have chemical properties which render them toxic. Use care and read the manufacturer's directions when handling these substances.

6.1 AirPal Platform Wipe Down Disinfectant Procedure

WARNING: Prior to any procedure please abide by your facility's standards for protective clothing and eyewear.

All AirPal Platform Transfer Pads can be wiped down. AirPal recommends that the Platforms be used with the supplied or a disposable AirPal brand liner. In place of the liner the AirPal Platform can be used with a linen sheet, incontinent pad, disposable chucks, etc. The AirPal brand reusable liners and Platforms require disinfectant wipe-downs or laundry between patient use. Use of the AirPal Liner is recommended as it can easily be removed and replaced with a spare liner to facilitate rapid turnaround of the AirPal Platform between patients. Only AirPal "N" Series Platforms may be laundered. See Laundry Guidelines below for more information.

The CDC recommends disinfecting with the use of household chlorine bleach diluted to a 1:10 ratio of bleach to water. This solution can be applied to all ("L" & "N" Series) AirPal Platforms. Bleach solution can be applied with a suitable cloth or sponge and applied via spray bottle or bucket. All surfaces should be wiped down liberally and allowed to air dry. To speed up drying, excess solution can be removed with clean paper towels and or a clean cloth towel. Rinse or dispose of all cleaning tools.

In addition to wiping down the AirPal Platform and liner it is recommended that the air supply hose end be inspected and wiped down with a disinfectant. Inspect and wipe down the interior of hose attachment point on the AirPal Platform as well.

In addition to a bleach/water solution, the following disinfectants have been tested by AirPal's materials manufacturer and are safe to use on the fabrics found in AirPal Platforms. All disinfectants should be used in accordance with the manufacturer's recommended dilutions and instructions for use.

6.1.1 Recommended Disinfectants "L" Series

Trade Name	Type	Manufacturer
Galahad	Phenolic	Puritan
LPH	Phenolic	Steris Corp
Amphyl	Phenolic	Reckitt- Benckiser
One-Stroke	Phenolic	Steris Corp
Vesphene II	Phenolic	Steris Corp

6.0 Maintenance

6.1 AirPal Platform Wipe Down Disinfectant Procedure Continued

6.1.2 Recommended Disinfectants "N" Series

Trade Name	Type	Manufacturer
A33	Quaternary	Ecolab
Blue Chip	Quaternary	S.C. Johnson Co.
Eli staph	Quaternary	Walter G. Legge
Forward DC	Quaternary	S.C. Johnson Co.
Lysol I. C. Quaternary	Quaternary	Reckitt-Benckiser
Omega	Quaternary	Ecolab
Pro-Tech RDI-36B	Quaternary	Central Solutions, Inc.
Quat Sanitizer	Quaternary	Ecolab
Sanikleen	Quaternary	West Penetone
Virex 128	Quaternary	S.C. Johnson Co.
Super SaniCloth	Quaternary/Isopropyl	Professional Disposables Inc.
SaniCloth Plus	Quaternary/Isopropyl	Professional Disposables Inc.

6.1.3 Recommended Disinfectants "L" & "N" Series

Trade Name	Type	Manufacturer
Viro-Chek	Hypochlorite	Bob Barker Co.
Alcide LD	Chlorine Oxide	Alcide Corporation

6.2 AirPal Platform Stain Removal

WARNING: Prior to any procedure please abide by your facilities standards for protective clothing and eyewear.

In general, stains to AirPal Platforms can be treated in the same way a common garment stain is treated. Using a standard household laundry stain remover (colorfast safe) treat the spot per manufacturer's direction - in place of a laundry stain remover, a concentrated mild detergent can be used. Work the stain for five minutes then rinse thoroughly with cold water. Remove excess rinse water with paper towels and allow to dry thoroughly. Use of a soft bristle brush may aid in stain removal.

For stubborn stains, soak the affected area in cold water and a diluted mild detergent mix of 1:5 (detergent to water). Remove from diluted solution (2 -3 hrs), rinse, and repeat stain removal procedure from above.

6.3 AirPal Platform Laundry Procedure ("N" Series Only)

WARNING: Prior to any procedure please abide by your facility's standards for protective clothing and eyewear.

"N" Series AirPal Platforms can be laundered according to the instructions below. Located at the foot-end of the AirPal Platform is a label with laundry and cleaning instructions. Verify that the AirPal Platform is an "N" Series. "L" and "N" series AirPal Platforms can be denoted by the use of different fabrics for the patient surfaces. "L" Series AirPal Platforms are a dark Navy Blue color and have a patient surface made from 'Lectrolite. The 'Lectrolite fabric is vinyl coated. "N" Series AirPal Platforms will be light blue in color. The latest models will have a Royal Blue patient surface made from Sure Chek Fusion III. This fabric has stretch characteristics and will have a little give when pulled on.

1. Soils or Strains: Wipe fabric clean with neutral suds and lukewarm water. Rinse with water.
2. Hard to Clean Spots: Use standard liquid household stain removers (colorfast) and/or soft bristle brush. Pre-soak as needed. See "Stain Removal" above.
3. Disinfection: Dilute disinfectants and/germicides as specified on manufacturer's product label.
4. Laundering: Wash and rinse according to the "Synthetic Washing Procedure for Coated Fabrics" described below:

Synthetic Washing Procedure for Coated Materials

Operation	Water Level	Time	Maximum Temp.	Supplies
1st Suds	High	5 min.	120F	Neutral Soap & Alkali
2nd Suds	High	10 min	120F	Neutral Soap
1st Rinse	High	3 min.	120F	Water
2nd Rinse	Low	3 min.	90F	Sour to ph 5.0

- A slow speed machine is used. The wash wheel is stopped for drainage and refilling between each cycle.
- Extract with centrifugal extractor.
- Tumble dry in steam dryer (not gas) at lowest possible setting (140F maximum). All synthetic fabrics are heat sensitive. To prolong the life of your product always use the lowest temperature setting.
- Do Not Iron. Although wrinkles may appear, they will not affect performance.

6.3 AirPal Platform Laundry Procedure ("N" Series Only) Continued

5. Strict adherence to above described laundry procedures must be maintained. Failure to follow recommended procedures may prove harmful to fabrics resulting in loss of expected useful life and voiding of warranty.

This method of cleaning and disinfecting the Air Pal Patient Transfer System has been developed and conforms with guidelines issued by the Center for Disease Control, Atlanta, GA.

6.4 Filter and Accessory Cleaning

6.4.1 Air Supply Filter

WARNING: Electrical hazard. Remove AirPal Air Supply from electrical outlet before following this procedure.

WARNING: Prior to any procedure please abide by your facility's standards for protective clothing and eyewear.

The AirPal Platform System requires the use of the AirPal Air Supply for inflation and patient transfer. The airflow is filtered through a "sock type" filter located inside the stainless steel filter enclosure. Cleaning of the filter is considered "routine maintenance" and under no condition will it void the manufacturer's warranty to follow the filter cleaning procedure (AirPal Air Supplies are covered under warranty from date of shipment for two years). Filter cleaning schedules are dependent upon amount of use and operating environment. AirPal recommends cleaning the filter on a minimum basis of once a quarter. Filters should be replaced every two to three years or as needed.

To access the filter remove the three Phillips Head screws that attach the stainless steel filter enclosure to the main body of the motor housing. Release the ground strap (green wire) and remove the stainless steel filter enclosure off to the side. Remove the "sock type" filter (the filter is held in place by tension with elastic at the open end).

Once the filter is removed, clean under cold running water. Place clean filter in a germicidal solution and let soak for five minutes (a 1:10 solution of chlorine bleach to water can be used). Remove from germicidal solution, remove excess solution (paper towels can be used to accelerate drying - place filter between towels and pat dry) Allow the filter to thoroughly dry before reinstalling into the AirPal Air Supply. Replace filter by performing removal steps in reverse.

6.4 Filter and Accessory Cleaning Continued

6.4.2 AirPal Air Supply - Exterior Surfaces

WARNING: Electrical hazard. Remove AirPal Air Supply from electrical outlet before following this procedure.

WARNING: Prior to any procedure please abide by your facility's standards for protective clothing and eyewear.

Due to the environment that the AirPal Air Supply is operated in, it is recommended that the AirPal Air Supply be routinely cleaned. In between patient use or whenever soiled, the Air Supply and Hose should be wiped down with a germicidal solution (Phenolic is preferred), or as per hospital protocol for a similar type of equipment. Use a clean sponge or paper towels dampened with the germicidal solution to wipe down all exterior surfaces. Wipe up any excess cleaning solution with clean dry paper towels and dispose of or rinse out cleaning tools properly. A diluted 1:10 solution of chlorine bleach to water can be used but note that stainless steel surfaces must be immediately dried after application - chlorine residues can be aggressive to stainless steel and metals in general.

6.4.3 AirPal Stand - Exterior Surfaces and Storage Basket

WARNING: Prior to any procedure please abide by your facility's standards for protective clothing and eyewear.

Due to the environment that the AirPal Stand is operated in, it is recommended that the AirPal Stand be routinely cleaned. In between patient use or whenever soiled, the AirPal Stand should be wiped down with a germicidal solution or as per hospital protocol for a similar type of equipment. Use a clean sponge or paper towels dampened with the germicidal solution to wipe down all exterior surfaces. Wipe up any excess cleaning solution with clean dry paper towels and dispose of or rinse out cleaning tools properly. A diluted 1:10 solution of chlorine bleach to water can be used but note that stainless steel surfaces must be immediately dried after application - chlorine residues can be aggressive to stainless steel and metals in general.

The storage basket is designed to be easily removed for cleaning. Place one hand on the stand and with your other hand push the bottom of the storage basket up and out from the retention bracket. The storage basket can be cleaned in a suitable laundry sink and is also dishwasher safe. When clean and dry replace the storage basket in the retention bracket and push down to seat the storage basket.

6.5 Consumables

The AirPal Platform is considered durable medical equipment. It is designed to be used, then disinfected and put back into service. There are two items that can be considered as "consumables."

6.5.1 AirPal Air Supply Filter

The AirPal Air Supply utilizes a sock type filter that filters to two microns. This filter can be cleaned, sanitized and placed back into service. The life of the filter is dependent upon environmental conditions and the frequency of its cleaning. Typically, these filters should be inspected for signs of wear (a thinning of the filter material) and/or damage to the filter material (holes, tears, seam splitting) or weakening of the elastic retention band. If damage or wear is observed the filter should be replaced. Airpal recommends replacement of the filter between 2 to 3 years of active service.

6.5.2 Disposable Protective Liners

Every AirPal Platform includes a durable protective liner. These liners can be disinfected utilizing the procedures identified in this section. Some users may opt to employ disposable protective liners. The disposable protective liners available from AirPal, Inc. are for a single use and should NEVER be reused. Contact AirPal, Inc. at 800-633-4725 to order disposable protective liners.